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Additional modelling on mature age students– detailed financial analysis

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Introduction

This document is a short addendum to the *Graduate Winners* report.

It has been noted that the modelling in *Graduate Winners* only focusses on the financial impact university has on school leavers.¹ However, non-school leavers make up a significant proportion of students. As Curtin University's vice-chancellor Jeanette Hackett rightly pointed out "at some universities up to half the enrollees were mature-age students".²

It's worth pointing out that many of these 'mature-age' students are in their 20s. While there are differences among Universities, 88% of people who commenced an undergraduate degree in 2011 were under the age of 30. Over 95% were under the age of 40.³

This still leaves open the question of how the economics of higher education stack up from the perspective of people who do not go to university straight from school. To help address this question, this short document presents central parts of the *Graduate Winners* analysis for students who start their degree aged 30.

For the purpose of easy comparison, we have also included our original output (which assumes that students enter university at age 18). Note that these figures have not had the same level of scrutiny as the modelling in *Graduate Winners* and the Detailed Financial Analysis, and so we present them as draft numbers.

Detailed information about the methodology used to generate these figures, can be found in [Detailed Financial Analysis](#) on the Grattan website. All assumptions other than the age at which students commence studying are at the 'baseline' values (presented in *Detailed Financial Analysis*).

¹ See, for example, IRU's thoughtful response

<http://www.iru.edu.au/news/executive-director's-comment/at-what-point-does-hecs-break.aspx>

² AFR, August 6, available here

http://afr.com/p/national/education/item_6s3QXROKmf593lLcjT3kJ

³ See "Commencing student" table 1.2, available here

<http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/2011StudentFullYear.aspx>

1. Main financial analysis – assuming graduates start studying at 30 years of age

Table 1 – Median private financial benefits
For commencing students aged 30

Discipline	Gender	Breakeven point (lowest decile)	Median Rate of return	Median NPV
Agriculture	F	50th	4%	\$84,290
	M	50th	4%	\$147,596
Architecture	F	40th	7%	\$218,060
	M	40th	6%	\$290,743
Commerce	F	40th	15%	\$317,991
	M	30th	17%	\$612,228
Dentistry	F	30th	14%	\$500,568
	M	20th	13%	\$829,382
Education	F	30th	10%	\$321,431
	M	40th	6%	\$203,644
Engineering	F	50th	7%	\$102,975
	M	30th	12%	\$499,496
Humanities	F	40th	7%	\$155,252
	M	50th	2%	\$45,103
Information Technology (IT)	F	30th	19%	\$521,286
	M	30th	15%	\$492,606
Law	F	30th	26%	\$733,807
	M	20th	22%	\$941,456
Mathematics	F	40th	14%	\$378,764
	M	30th	13%	\$426,131
Medicine	F	20th	18%	\$920,991
	M	10th	13%	\$889,060
Nursing	F	30th	12%	\$268,373
	M	40th	7%	\$214,357
Performing arts	F	50th	3%	\$55,530
	M	60th	**	-\$114,392
Sciences (excl. maths)	F	40th	12%	\$246,928
	M	40th	10%	\$344,628
Bachelor degree average	F	40th	9%	\$268,102
	M	30th	10%	\$401,306

Note :See Detailed Financial Analysis, for information on methodology and sources

Table 2 – Median private financial benefits
For commencing students aged 18

Discipline	Gender	Breakeven point (lowest decile)	Median Rate of return	Median NPV
Agriculture	F	40th	11%	\$205,445
	M	40th	11%	\$320,387
Architecture	F	40th	10%	\$375,830
	M	30th	8%	\$452,806
Commerce	F	30th	25%	\$501,757
	M	30th	21%	\$806,693
Dentistry	F	30th	23%	\$855,076
	M	20th	25%	\$1,323,083
Education	F	30th	18%	\$503,231
	M	30th	14%	\$404,913
Engineering	F	40th	21%	\$331,712
	M	30th	19%	\$771,701
Humanities	F	40th	10%	\$236,161
	M	50th	4%	\$107,065
Information Technology (IT)	F	30th	23%	\$693,625
	M	30th	20%	\$677,134
Law	F	20th	27%	\$973,483
	M	20th	22%	\$1,180,143
Mathematics	F	40th	18%	\$522,778
	M	30th	15%	\$578,680
Medicine	F	20th	19%	\$1,244,669
	M	10th	18%	\$1,262,014
Nursing	F	30th	28%	\$446,356
	M	30th	23%	\$408,527
Performing arts	F	50th	6%	\$112,806
	M	60th	**	-\$69,873
Sciences (excl. maths)	F	40th	15%	\$365,800
	M	30th	11%	\$458,624
Bachelor degree average	F	30th	16%	\$442,174
	M	30th	14%	\$606,693

Note :See Detailed Financial Analysis, for information on methodology and sources

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Table 3 – Do student contributions change the economics
(effect on breakeven point)

BREAKEVEN POINTS (lowest decile) – 30 year old commencing student					
Discipline	Gender	1. 'Free' education	2. HECS- HELP	3. Full-CSP rates	4. International student fees
Agriculture	F	50th	50th	50th	50th
	M	50th	50th	50th	50th
Architecture	F	40th	40th	40th	40th
	M	40th	40th	40th	40th
Commerce	F	40th	40th	40th	40th
	M	30th	30th	30th	30th
Dentistry	F	30th	30th	30th	30th
	M	20th	20th	20th	20th
Education	F	30th	30th	30th	30th
	M	30th	40th	40th	40th
Engineering	F	50th	50th	50th	50th
	M	30th	30th	30th	30th
Humanities	F	40th	40th	40th	40th
	M	50th	50th	50th	50th
IT	F	30th	30th	30th	30th
	M	30th	30th	30th	30th
Law	F	30th	30th	30th	30th
	M	20th	20th	20th	20th
Mathematics	F	40th	40th	40th	40th
	M	30th	30th	30th	30th
Medicine	F	20th	20th	20th	20th
	M	10th	10th	20th	20th
Nursing	F	30th	30th	30th	30th
	M	40th	40th	40th	40th
Performing arts	F	50th	50th	50th	50th
	M	60th	60th	70th	70th
Sciences (excl. maths)	F	40th	40th	40th	40th
	M	30th	40th	40th	40th
Bachelor degree average	F	40th	40th	40th	40th
	M	30th	30th	40th	40th

BREAKEVEN POINTS (lowest decile) – 18 year old commencing student					
Discipline	Gender	1. 'Free' education	2. HECS- HELP	3. Full-CSP rates	4. International student fees
Agriculture	F	40th	40th	40th	40th
	M	40th	40th	40th	40th
Architecture	F	40th	40th	40th	40th
	M	30th	30th	40th	40th
Commerce	F	30th	30th	30th	30th
	M	30th	30th	30th	30th
Dentistry	F	30th	30th	30th	30th
	M	20th	20th	20th	20th
Education	F	30th	30th	30th	30th
	M	30th	30th	30th	30th
Engineering	F	40th	40th	40th	40th
	M	30th	30th	30th	30th
Humanities	F	40th	40th	40th	40th
	M	50th	50th	50th	50th
IT	F	30th	30th	30th	30th
	M	30th	30th	30th	30th
Law	F	20th	20th	20th	20th
	M	20th	20th	20th	20th
Mathematics	F	30th	40th	40th	30th
	M	30th	30th	30th	30th
Medicine	F	20th	20th	20th	20th
	M	10th	10th	10th	10th
Nursing	F	30th	30th	30th	30th
	M	30th	30th	30th	30th
Performing arts	F	50th	50th	50th	50th
	M	60th	60th	60th	60th
Sciences (excl. maths)	F	40th	40th	40th	40th
	M	30th	30th	40th	40th
Bachelor degree average	F	30th	30th	30th	30th
	M	30th	30th	30th	30th

Note: for information on methodology and sources, see Detailed Financial Analysis.

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Table 4 - Changing the level of student contribution
(effect on internal rate of return)

MEDIAN Rate of return – 30 year old commencing students					
Discipline	Gender	1. 'Free' education	2. HECS- HELP	3. Full-CSP rates	4. International student fees
Agriculture	F	4%	4%	4%	4%
	M	5%	4%	2%	3%
Architecture	F	8%	7%	7%	7%
	M	7%	6%	5%	5%
Commerce	F	17%	15%	15%	14%
	M	19%	17%	16%	15%
Dentistry	F	15%	14%	13%	13%
	M	14%	13%	12%	11%
Education	F	11%	10%	10%	10%
	M	7%	6%	5%	4%
Engineering	F	9%	7%	7%	7%
	M	13%	12%	10%	10%
Humanities	F	7%	7%	7%	7%
	M	2%	2%	1%	1%
IT	F	21%	19%	18%	18%
	M	17%	15%	14%	14%
Law	F	29%	26%	26%	25%
	M	24%	22%	22%	21%
Mathematics	F	16%	14%	14%	16%
	M	15%	13%	12%	15%
Medicine	F	19%	18%	17%	17%
	M	14%	13%	12%	11%
Nursing	F	13%	12%	12%	12%
	M	8%	7%	6%	6%
Performing arts	F	3%	3%	3%	3%
	M	**	**	**	**
Sciences (excl. maths)	F	13%	12%	12%	12%
	M	12%	10%	9%	9%
Bachelor degree average	F	10%	9%	9%	9%
	M	11%	10%	9%	8%

MEDIAN Rate of return – 18 year old commencing students					
Discipline	Gender	1. 'Free' education	2. HECS- HELP	3. Full-CSP rates	4. International student fees
Agriculture	F	12%	11%	11%	10%
	M	13%	11%	9%	9%
Architecture	F	11%	10%	10%	10%
	M	9%	8%	7%	7%
Commerce	F	27%	25%	25%	24%
	M	22%	21%	20%	19%
Dentistry	F	26%	23%	22%	22%
	M	28%	25%	24%	23%
Education	F	20%	18%	18%	18%
	M	16%	14%	13%	13%
Engineering	F	23%	21%	20%	20%
	M	21%	19%	18%	18%
Humanities	F	10%	10%	10%	9%
	M	5%	4%	3%	3%
IT	F	25%	23%	23%	22%
	M	21%	20%	19%	18%
Law	F	29%	27%	27%	26%
	M	24%	22%	22%	22%
Mathematics	F	19%	18%	18%	na
	M	16%	15%	14%	16%
Medicine	F	21%	19%	19%	19%
	M	20%	18%	17%	17%
Nursing	F	31%	28%	28%	28%
	M	26%	23%	21%	21%
Performing arts	F	6%	6%	6%	5%
	M	**	**	**	**
Sciences (excl. maths)	F	16%	15%	15%	14%
	M	12%	11%	11%	10%
Bachelor degree average	F	18%	16%	16%	15%
	M	16%	14%	14%	13%

Note: for information on methodology and sources, see Detailed Financial Analysis.

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2. Other Graduate Winners analysis – assuming students start studying at 30 years of age

2.1 Example of engineering

Table 5 – Median public and private financial benefits of engineering (compared to year 12 completion only)
Assuming 30 year old commencing student

	Women	Men
Net private financial benefits*	\$102,975	\$499,496
Net public financial benefits**	\$39,956	\$296,817

Median public and private financial benefits of engineering (compared to year 12 completion only)
Assuming 18 year old commencing student

	Women	Men
Net private financial benefits*	\$331,712	\$771,701
Net public financial benefits**	\$149,221	\$426,592

Table 13 in Graduate Winners (see p 64)

2.2 Example of nursing

Table 6 – Median public and private financial benefits of engineering (compared to year 12 completion only)
Assuming 30 year old commencing student

	Women	Men
Net private financial benefits*	\$268,373	\$214,357
Net public financial benefits**	\$124,037	\$122,359

Median public and private financial benefits of engineering (compared to year 12 completion only)
Assuming 18 year old commencing student

	Women	Men
Net private financial benefits*	\$446,356	\$408,527
Net public financial benefits**	\$202,212	\$210,431

Table 15 in Graduate Winners (see p 66)

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2.3 Example of performing arts

Table 7 – Median public and private financial benefits of performing arts (compared to year 12 completion only)

Assuming 30 year old commencing student

	Women	Men
Net private financial benefits*	\$55,530	-\$114,392
Net public financial benefits**	\$10,537	-\$50,450

Median public and private financial benefits of performing arts (compared to year 12 completion only)

Assuming 18 year old commencing student

	Women	Men
Net private financial benefits*	\$112,806	-\$69,873
Net public financial benefits**	\$28,274	-\$39,207

Table 17 in Graduate Winners (see p 69)

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3. Conclusion

If people attend university later in life, they can expect lower financial returns. For school leavers the median internal rate of return of a bachelor degree is extremely strong – around 15%. For 30 year olds the internal rate of return is lower, but still very healthy, at around 10%.

As we noted in *Graduate Winners*, there are significant differences between disciplines. For example, from the perspective of a 30 year old an undergraduate degree in IT makes a great deal of financial sense (compared to not having a degree). A humanities degree will be less lucrative. We note that this was also the case for school leavers.

Moreover, the economics of higher ed for non-school leavers remain relatively insensitive to increases in student contributions (as demonstrated by Table 3 and 4). Degrees which make financial sense for a 30 year when fees are zero, generally make financial sense without Commonwealth subsidies.

Lastly, we note that while mature-age students have lower private returns, the flip side of this coin is that these graduates provide fewer public benefits. In terms of the example disciplines discussed in *Graduate Winners* (e.g. nursing), the relativities between public and private benefits are similar for students commencing their study aged 18, and 30.

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